

Listing of Claims:

1. (Currently Amended) An image processing apparatus,
comprising:

an exposing device for exposing ~~an~~ a thermally developable
image forming material so as to form a latent image on the image
5 forming material based on image data;

a thermal developing device for thermally developing and
visualizing the latent image on the exposed image forming
material so as to form an image;

10 a measuring device for measuring ~~the~~ an image density of the
image on the developed image forming material;

a calibrating device for forming a table to define a
relation between an image signal and image density thereof
based on ~~the basis of plural~~ a plurality of different test image
data and ~~measured image~~ measured image densities thereof;

15 a storing device for storing ~~a~~ characteristic change model
data indicating a characteristic change of ~~at least one of the~~
~~exposing device and the~~ thermal developing device ~~with~~ over time
after starting of operation of the image processing apparatus;

20 a difference calculating device to calculate, each time an
image is formed based on an image signal corresponding to
diagnostic image data, a density difference ~~on the basis of the~~
~~characteristic change model~~ between ~~the~~ an image density at

a time of forming at which the table was formed and the an image
density at a time of forming an at which the image is formed

25 based on the image signal of corresponding to the diagnostic
image data, said calculation of the density difference being
performed based on the characteristic change model data; and

a correcting device for correcting the table based on the
basis of the density difference calculated by the difference
30 calculating device.

2. (Currently Amended) The image processing apparatus of
claim 1, wherein ~~said storing device stores~~ said characteristic
change model ~~that starts at the~~ data indicates the characteristic
change starting from a time of the turning-on of the at which a
power source of the image processing apparatus is turned on.

3. (Currently Amended) The image processing apparatus of
claim 1, wherein the characteristic change model ~~is a~~ data
comprises predetermined characteristic change model data
installed from ~~the~~ outside the image processing apparatus.

4. (Currently Amended) The image processing apparatus of
claim 1, wherein the characteristic change model ~~is an~~ data
comprises actual characteristic change model data obtained based
on image densities measured by the measuring device ~~with the~~

5 ~~processing of the image forming materials~~ each time any said
image forming material is processed.

5. (Currently Amended) An image processing apparatus,
comprising:

an exposing device for exposing ~~an~~ a thermally developable
image forming material so as to form a latent image on the image
5 forming material based on image data;

a thermal developing device for thermally developing and
visualizing the latent image on the exposed image forming
material so as to form an image;

a measuring device for measuring ~~the~~ an image density of the
10 image on the developed image forming material;

a calibrating device for forming a table to define a
relation between an image signal and an image density thereof
based on the basis of plural a plurality of different test image
data and ~~measured image~~ measured image densities thereof;

15 a storing device for storing ~~a~~ passage-time film
characteristic model ~~that is the~~ data indicating a change with
over time of a characteristic of the image forming material after
loading of the image forming material in the image processing
apparatus; and

20 a difference calculating device to calculate, each time an
image is formed based on an image signal corresponding to

diagnostic image data, a density difference on the basis of the
passage-time film characteristic model between the an image
density at a time of forming at which the table was formed and
25 the an image density at a time of forming an at which the image
is formed based on the image signal of corresponding to the
diagnostic image data, said calculation of the density difference
being performed based on the passage-time film characteristic
model data; and

30 a correcting device for correcting the table based on the
basis of the density difference calculated by the difference
calculating device.

6. (Currently Amended) The image processing apparatus of
claim 5, wherein said storing device stores a result data
obtained by exposing to a part of the image forming material with
a light quantity through that corresponds to a predetermined
5 density according to the table corresponding to a predetermined
density at the a time of forming a diagnosis image and
by measuring a density on the at said part of the image forming
material, on which the diagnosis image is formed, wherein the
image processing apparatus further comprises:

10 a first controlling device for controlling at least one of
the exposing device and the developing device in such a way so as

to offset ~~the~~ a characteristic change of at least one of the exposing device and the developing device;

15 a first estimation device for calculating and keeping a characteristic change of the image forming material based on ~~the basis of~~ the stored result data; and

20 a second controlling device for controlling at least one of the exposing device and the developing device based on ~~the basis of the characteristic change of the image forming material~~ calculated by the first estimation device ~~in such a way as to offset the characteristic change of the image forming material~~ instead of the stored passage-time film characteristic model data so as to offset the characteristic change of the image forming material.

15 7. (Currently Amended) The image processing apparatus of claim 6, further comprising:

5 a clearing device for clearing ~~off~~ the characteristic change ~~made~~ calculated by the first estimation device ~~at the time of preparation of~~ when the table is prepared by the calibrating device ~~or at the time of operation of~~ and when the second controlling device is operated.

8. (Currently Amended) The image processing apparatus of claim 7, wherein the first controlling device and the second

controlling device are ~~carried out~~ operated when an image formation operation is resumed after ~~a stop of the image~~
5 processing apparatus has been stopped for a period of time that
is not shorter than a predetermined time.

9. (Currently Amended) The image processing apparatus of claim 6, wherein said first estimation device ~~calculate~~
calculates and ~~keep~~ keeps a characteristic change of the image forming material every time the image processing apparatus stops for a predetermined period of time.

10. (Currently Amended) The image processing apparatus of claim 5, wherein said storing device stores ~~a~~ result data obtained by exposing ~~to~~ a part of the image forming material with a light quantity ~~through~~ that corresponds to a predetermined
5 density according to the table ~~corresponding to a predetermined density~~ at ~~the~~ a time of forming a diagnosis image and by measuring a density on ~~the~~ said part of the image forming material, ~~on which the diagnosis image is formed,~~ wherein the image processing apparatus further comprises:

10 a holder for holding the image forming material;
 a first controlling device for controlling at least one of the exposing device and the developing device ~~in such a way~~ so as

to offset ~~the~~ a characteristic change of at least one of the exposing device and the developing device;

15 a third controlling device for controlling, during a predetermined period of time after loading the holder to the image processing apparatus, at least one of the exposing device and the developing device based on ~~the basis of the~~ a difference between ~~the result of the density measured on the~~ at said part of
20 the image forming material and a predetermined density for comparison; ~~during a predetermined period of time after loading the holder to the apparatus~~;

 a second estimation device for calculating and keeping a characteristic change of the image forming material ~~through the~~
25 based on an amount of the control carried out lastly in said third controlling device and the result ~~of the density measured data stored~~ in the storing device; ~~after a predetermined period of time after loading the holder to the apparatus~~; and

 a fourth controlling device for controlling, if the
30 predetermined period of time after loading the holder to the image processing apparatus has elapsed, at least one of the exposing device and the developing device based on ~~the basis of the characteristic change of the image forming material~~
 calculated by the second estimation device ~~in such a way as to~~
35 ~~offset the characteristic change of the image forming material~~
 instead of the stored passage-time film characteristic model data

so as to offset the characteristic change of the image forming material.

11. (Currently Amended) The image processing apparatus of claim 10, further comprising:

a clearing device for clearing ~~off~~ the characteristic change ~~made calculated~~ by the second estimation device ~~at the time of~~
5 ~~preparation of~~ when the table is prepared by the calibrating device ~~or at the time of operation of~~ and when the fourth controlling device is operated.

12. (Currently Amended) The image processing apparatus of claim 11, wherein the first controlling device and the fourth
controlling device are ~~carried out~~ operated when an image
formation operation is resumed after ~~a stop of the image~~
5 processing apparatus has been stopped for a period of time that
is not shorter than a predetermined time.

13. (Currently Amended) The image processing apparatus of claim 10, wherein said second estimation device calculates and keeps a characteristic change of the image forming material every
time the image processing apparatus stops for a predetermined
period of time.

14. (Currently Amended) An image processing apparatus,
comprising:

an exposing device for exposing ~~an~~ a thermally developable
image forming material so as to form a latent image on the image
5 forming material based on image data;

a thermal developing device for thermally developing and
visualizing the latent image on the exposed image forming
material so as to form an image;

10 a measuring device for measuring ~~the~~ an image density of the
image on the developed image forming material;

a calibrating device for forming a table to define a
relation between an image signal and an image density thereof
based on ~~the basis of plural~~ a plurality of different test image
data and ~~measured-image~~ measured image densities thereof;

15 a first storing device for storing ~~a~~ characteristic change
model ~~that is at least one of the~~ data indicating changes with
over time of a characteristic of ~~the exposing device and the~~
thermal developing device after starting of operation of the
image processing apparatus;

20 a second storing device for storing ~~a~~ passage-time film
characteristic model ~~that is the~~ data indicating a change with
over time of a characteristic of the image forming material after
loading of the image forming material in the image processing
apparatus; and

25 a difference calculating device to calculate, each time an
image is formed based on an image signal corresponding to
diagnostic image data, a density difference ~~on the basis of the~~
~~characteristic change model and the passage-time film~~
~~characteristic model~~ between ~~the~~ an image density at a time of
30 forming at which the table was formed and ~~the~~ an image density at
a time of forming an at which the image is formed based on the
image signal of corresponding to the diagnostic image data, said
calculation of the density difference being performed based on
the characteristic change model data and the passage-time film
35 characteristic model data; and

 a correcting device for correcting the table based on ~~the~~
~~basis of~~ the density difference calculated by the difference
calculating device.

15. (Currently Amended) The image processing apparatus of
claim 14, wherein ~~said first storing device stores~~ said
characteristic change model ~~for a~~ data indicates the
characteristic change starting from ~~the~~ a point of time of the
5 turning-on of the at which a power source of the image processing
apparatus is turned on.

16. (Currently Amended) A method of ~~an~~ image processing
with an image processing apparatus, comprising ~~the steps of:~~

~~exposing for~~ exposing ~~an~~ a thermally developable image
forming material so as to form a latent image on the image
5 forming material based on image data;

~~developing for~~ thermally developing and visualizing, with a
thermal developing device, the latent image on the exposed image
forming material so as to form an image;

~~measuring for~~ measuring ~~the~~ an image density of the image on
10 the developed image forming material;

~~calibrating for~~ forming a table to define a relation between
an image signal and image density thereof based on ~~the basis of~~
~~plural~~ a plurality of different test image data and ~~measured-~~
image measured image densities thereof;

15 ~~storing for~~ storing ~~a~~ characteristic change model data
indicating a characteristic change of ~~at least one of an exposing~~
~~device and an~~ the thermal developing device ~~with~~ over time after
starting of operation of the image processing apparatus;

~~difference~~ calculating, each time an image is formed based
20 on an image signal corresponding to diagnostic image data, to
~~calculate~~ a density difference ~~on the basis of the characteristic~~
~~change model~~ between ~~the~~ an image density at a time of forming at
which the table was formed and ~~the~~ an image density at a time of
forming an at which the image is formed based on the image signal

25 ~~of corresponding to the~~ diagnostic image data, said calculation
of the density difference being performed based on the
characteristic change model data; and

~~correcting for~~ correcting the table based on ~~the basis of~~
the calculated density difference, ~~calculated by the difference~~
30 ~~calculating.~~

17. (Currently Amended) The method of claim 16, wherein
~~said storing step stores~~ the characteristic change model ~~that~~
~~starts at the~~ data indicates the characteristic change starting
from a time of the turning-on of the at which a power source of
the image processing apparatus is turned on.

18. (Currently Amended) The method of claim 16, wherein
said characteristic change model ~~is a~~ data comprises
predetermined characteristic change model data installed from ~~the~~
outside the image processing apparatus.

19. (Currently Amended) The method of claim 16, wherein
said characteristic change model ~~is an~~ data comprises actual
characteristic change model data obtained based on image
densities measured by the measuring device ~~with the processing of~~
5 ~~the image forming materials~~ each time any said image forming
material is processed.

20. (Currently Amended) A method of ~~an~~ image processing
with an image processing apparatus, comprising ~~the steps of:~~

~~exposing for~~ exposing, with an exposing device, ~~an a~~
thermally developable image forming material so as to form a
5 latent image on the image forming material based on image data;

~~developing for~~ thermally developing and visualizing, ~~with a~~
thermal developing device, the latent image on the exposed image
forming material so as to form an image;

~~measuring for~~ measuring ~~the an~~ image density of the image on
10 the developed image forming material;

~~calibrating for~~ forming a table to define a relation between
an image signal and an image density thereof based on ~~the basis~~
~~of plural~~ a plurality of different test image data and ~~measured-~~
image measured image densities thereof;

15 ~~storing for~~ storing ~~a~~ passage-time film characteristic model
~~that is the~~ data indicating a change ~~with over~~ time of a
characteristic of the image forming material after loading of the
image forming material in the image processing apparatus; and

difference calculating, each time an image is formed based
20 on an image signal corresponding to diagnostic image data, to
~~calculate~~ a density difference ~~on the basis of the passage-time~~
~~film characteristic model~~ between ~~the~~ an image density at a time
~~of forming at which~~ the table was formed and ~~the~~ an image density

at a time ~~of forming an~~ at which the image is formed based on the
25 image signal ~~of~~ corresponding to the diagnostic image data, said
calculation of the density difference being performed based on
the passage-time film characteristic model data; and

~~correcting for~~ correcting the table based on ~~the basis of~~
the calculated density difference. ~~calculated by the difference~~
30 ~~calculating.~~

21. (Currently Amended) The method of claim 20, ~~wherein~~
~~said storing step stores a~~ further comprising:

storing result data obtained by exposing ~~to~~ a part of the
image forming material with a light quantity ~~through that~~
5 corresponds to a predetermined density according to the table
~~corresponding to a predetermined density~~ at the time of forming a
diagnosis image and by measuring a density ~~on the~~ at said part of
the image forming material; ~~on which the diagnosis image is~~
~~formed, wherein the method further comprises the steps of:~~

10 ~~first controlling for~~ controlling at least one of ~~an~~
the exposing device and ~~a~~ the developing device ~~in such a way~~
so as to offset the a characteristic change of at least one
of the exposing device and the developing device;

~~first estimating for~~ calculating and keeping a
15 characteristic change of the image forming material based on ~~the~~
~~basis of~~ the stored result data; and

~~second controlling for~~ controlling at least one of the
exposing device and the developing device based on ~~the basis of~~
~~the first estimating step in such a way as to offset the~~
20 ~~characteristic change of the image forming material~~ the
calculated characteristic change of the image forming material
instead of the stored passage-time film characteristic model data
so as to offset the characteristic change of the image forming
material.

22. (Currently Amended) The method of claim 21, further
comprising ~~the step of~~:

clearing ~~for clearing off~~ the calculated characteristic
change ~~obtained by the first estimating step at the time of~~
5 ~~preparation of the image forming material when~~ the table ~~by the~~
~~calibrating step or at the time of operation of the second~~
~~controlling step is prepared and when the at least one of the~~
~~exposing device and the developing device are controlled based on~~
~~the calculated characteristic change of the image forming~~
10 material.

23. (Currently Amended) The method of claim 21, wherein the
~~first controlling step and the second controlling step~~
controlling steps are carried out when an image processing
operation is resumed after ~~a stop of~~ the image processing

5 apparatus has been stopped for a period of time that is not shorter than a predetermined time.

24. (Currently Amended) The method of claim 21, wherein ~~said first estimation step calculates and keeps~~ a characteristic change of the image forming material is calculated and kept every time the image processing apparatus stops for a predetermined period of time.

25. (Currently Amended) The method of claim 20, wherein ~~said storing step stores a~~ further comprising:

3 storing result data obtained by exposing ~~to~~ a part of the image forming material with a light quantity ~~through that~~
5 corresponds to a predetermined density according to the table ~~corresponding to a predetermined density~~ at ~~the~~ a time of forming a diagnosis image and by measuring a density ~~on the~~ at said part of the image forming material; ~~on which the diagnosis image is formed, wherein the method further comprises the steps of:~~
10 loading a holder which holds ~~an~~ the image forming material to ~~an~~ the image processing apparatus; ~~including an exposing device and a developing device,~~

~~first controlling for~~ controlling at least one of ~~an~~ the exposing device and ~~a~~ the developing device ~~in such a way so~~ as

15 to offset ~~the~~ a characteristic change of at least one of the
exposing device and the developing device;

~~third controlling for~~ controlling, during a predetermined
period of time after loading the holder to the image processing
apparatus, at least one of the exposing device and the developing
20 device based on ~~the basis of the~~ a difference between ~~the result~~
~~of~~ the density measured ~~on the~~ at said part of the image forming
material and a predetermined density for comparison; ~~during a~~
~~predetermined period of time after loading the holder to the~~
~~apparatus,~~

25 ~~second estimating for~~ calculating and keeping a
characteristic change of the image forming material ~~through the~~
based on the stored result data and an amount of the control
carried out lastly in the ~~third~~ controlling performed based on
the measured density and the density for comparison; ~~step of the~~
30 ~~result of the density measured in the storing step after a~~
~~predetermined period of time after loading the holder to the~~
~~apparatus,~~ and

~~fourth controlling for~~ controlling, if the predetermined
period of time after loading the holder to the image processing
35 apparatus has elapsed, at least one of the exposing device and
the developing device based on ~~the basis of the second estimating~~
~~step in such a way as to offset the characteristic change of the~~
~~image forming material~~ the calculated characteristic change of

the image forming material instead of the stored passage-time
40 film characteristic model data so as to offset the characteristic
change of the image forming material.

26. (Currently Amended) The method of claim 25, further
comprising ~~the step of:~~

clearing ~~for clearing off~~ the characteristic change ~~obtained~~
~~by the second estimating step at the time of preparation of the~~
5 image forming material when the table by the calibrating step or
~~at the time of operation of the fourth controlling step is~~
prepared and when the at least one of the exposing device and the
developing device are controlled based on the calculated
characteristic change of the image forming material.

27. (Currently Amended) The method of claim 25, wherein
when an image formation operation is resumed after the image
processing apparatus has been stopped for a period of time that
is not shorter than a predetermined time, (i) the first
5 ~~controlling step~~ controlling the at least one of the exposing
device and the developing device so as to offset the a
characteristic change of at least one of the exposing device and
the developing device, and (ii) the fourth controlling step the
at least one of the exposing device and the developing device
10 based on the calculated characteristic change of the image

forming material are both carried out, ~~when an image formation is resumed after a stop of the apparatus for a period of time not shorter than a predetermined time.~~

28. (Currently Amended) The method of claim 25, wherein ~~said second estimation step calculates and keeps~~ a characteristic change of the image forming material is calculated and kept every time the image processing apparatus stops for a predetermined period of time.

29. (Currently Amended) A method of ~~an~~ image processing with an image processing apparatus, comprising ~~the steps of:~~

~~exposing for~~ exposing ~~an~~ a thermally developable image forming material so as to form a latent image on the image forming material based on image data;

~~developing for~~ thermally developing and visualizing, with a thermal developing device, the latent image on the exposed image forming material so as to form an image;

~~measuring for~~ measuring ~~the~~ an image density of the image on the developed image forming material;

~~calibrating for~~ forming a table to define ~~an~~ a relation between an image signal and an image density thereof based on ~~the basis of plural~~ a plurality of different test image data and ~~measured image~~ measured image densities thereof;

15 ~~first storing for~~ storing a characteristic change model ~~that~~
~~is at least one of the~~ data indicating changes ~~with over~~ time of
a characteristic of ~~an exposing device~~ and a thermal developing
device after starting of operation of the image processing
apparatus;

20 ~~second storing for~~ storing a passage-time film
characteristic model ~~that is the~~ data indicating a change ~~with~~
over time of a characteristic of the image forming material after
loading of the image forming material in the image processing
apparatus; and

25 ~~difference~~ calculating, each time an image is formed based
on an image signal corresponding to diagnostic image data, to
~~calculate~~ a density difference ~~on the basis of the characteristic~~
~~change model and the passage-time film characteristic model~~
between an image density at ~~the a~~ a time of forming at which the
30 table was formed and an image density at ~~the a~~ a time of forming an
at which the image is formed based on the image signal ~~of~~
corresponding to the diagnostic image data, said calculation of
the density difference being performed based on the
characteristic change model data and the passage-time film
35 characteristic model data; and

~~correcting for~~ correcting the table based ~~on the basis of~~
the calculated density difference, ~~calculated by the difference~~
~~calculating.~~

30. (Currently Amended) The method of claim 29, wherein
~~said first storing step stores said the~~ characteristic change
model ~~that starts at the~~ data indicates the characteristic change
starting from a time of the turning on of the ~~at which a~~ power
source of the image processing apparatus is turned on.

31. (Currently Amended) A computer-readable recording
medium having a computer program stored thereon to ~~control~~ be
executed by a computer to ~~function as~~ cause the computer to
control an image processor, ~~wherein the image processor~~
5 ~~comprises.~~ to execute functions comprising:

an exposing function for exposing ~~an~~ a thermally developable
image forming material so as to form a latent image on the image
forming material based on image data;

a thermal developing function for thermally developing and
10 visualizing, with a thermal developing device, the latent image
on the exposed image forming material so as to form an image;

a measuring function for measuring ~~the~~ an image density of
the image on the developed image forming material;

a calibrating function for forming a table to define a
15 relation between an image signal and image density thereof based
on the basis of plural a plurality of different test image data
and ~~measured-image~~ measured image densities thereof;

a storing function for storing ~~a~~ characteristic change model data indicating a characteristic change of ~~at least one of an~~
20 ~~exposing device and an~~ the thermal developing device with over
time after starting of operation of the image processor;

a difference calculating function to calculate, each time an
image is formed based on an image signal corresponding to
diagnostic image data, a density difference ~~on the basis of the~~
25 ~~characteristic change model~~ between ~~the~~ an image density at
a time of forming at which the table was formed and ~~the~~ an image
density at a time of forming an at which the image is formed
based on the image signal of corresponding to the diagnostic
image data, said calculation of the density difference being
30 performed based on the characteristic change model data; and

a correcting function for correcting the table based on ~~the~~
~~basis of~~ the density difference calculated by the difference
calculating function.

32. (Currently Amended) The ~~computer program~~ computer-
readable recording medium of claim 31, wherein ~~said storing~~
~~function stores~~ the characteristic change model ~~that starts at~~
~~the~~ data indicates the characteristic change starting from a time
5 of the turning-on of the at which a power source of the image
processor is turned on.

33. (Currently Amended) The ~~computer program~~ computer-readable recording medium of claim 31, wherein said characteristic change model ~~is a~~ data comprises predetermined characteristic change model data installed from ~~the~~ outside the image processor.

34. (Currently Amended) The ~~computer program~~ computer-readable recording medium of claim 31, wherein said characteristic change model ~~is an~~ data comprises actual characteristic change model data obtained based on image densities measured by the measuring function ~~with the processing of the image forming materials~~ each time any said image forming material is processed.

35. (Currently Amended) A computer-readable recording medium having a computer program stored thereon to ~~control~~ be executed by a computer to ~~function as~~ cause the computer to control an image processor, ~~wherein the image processor comprises:~~ to execute functions comprising:

an exposing function, with an exposing device, for exposing ~~an~~ a thermally developable image forming material so as to form a latent image on the image forming material based on image data;

a developing function for thermally developing and
10 visualizing, with a thermal developing device, the latent image
on the exposed image forming material so as to form an image;

a measuring function for measuring ~~the~~ an image density of
the image on the developed image forming material;

a calibrating function for forming a table to define a
15 relation between an image signal and an image density thereof
based on ~~the basis of plural~~ a plurality of different test image
data and ~~measured image~~ measured image densities thereof;

a storing function for storing ~~a~~ passage-time film
characteristic model ~~that is the~~ data indicating a change with
20 over time of a characteristic of the image forming material after
loading of the image forming material in the image processor; and

a difference calculating function to calculate, each time an
image is formed based on an image signal corresponding to
diagnostic image data, a density difference ~~on the basis of the~~
25 ~~passage-time film characteristic model~~ between ~~the~~ an image
density at a time of forming at which the table was formed and
~~the~~ an image density at a time of forming an at which the image
is formed based on the image signal of corresponding to the
diagnostic image data, said calculation of the density difference
30 being performed based on the passage-time film characteristic
model data; and

a correcting function for correcting the table based on ~~the basis of~~ the density difference calculated by the difference calculating function.

36. (Currently Amended) The ~~computer program~~ computer-readable recording medium of claim 35, wherein ~~said storing function stores a~~ the image processor is controlled to perform further functions comprising:

5 a further storing function for storing result data obtained by exposing ~~to~~ a part of the image forming material with a light quantity ~~through that corresponds to a predetermined density according to the table corresponding to a predetermined density~~ at the time of forming a diagnosis image and by measuring a
10 density ~~on the at said~~ part of the image forming material; ~~on which the diagnosis image is formed, wherein the image processor further comprises.~~

15 a first controlling function for controlling at least one of ~~an the~~ exposing device and ~~a the~~ developing device ~~in such a way so~~ as to offset ~~the a~~ characteristic change of at least one of the exposing device and the developing device;

 a first estimating function for calculating and keeping a characteristic change of the image forming material based on ~~the basis of~~ the stored result data; and

20 a second controlling function for controlling at least one
of the exposing device and the developing device based on ~~the~~
~~basis of the first estimating step in such a way as to offset the~~
~~characteristic change of the image forming material~~ the
calculated characteristic change of the image forming material
25 instead of the stored passage-time film characteristic model data
so as to offset the characteristic change of the image forming
material.

37. (Currently Amended) The ~~computer program~~ computer-
readable recording medium of claim 36, wherein the image
processor is controlled to perform further ~~comprises~~ functions
comprising:

5 a clearing function for clearing ~~off~~ the characteristic
change ~~obtained~~ calculated by the first estimating ~~at the time of~~
~~preparation of~~ function when the table is prepared by the
calibrating ~~or at the time of operation of~~ function and when the
second controlling is performed.

38. (Currently Amended) The ~~computer program~~ computer-
readable recording medium of claim 36, wherein the first
controlling function and the second controlling function are
carried out when an image processing operation is resumed after a

5 ~~stop of~~ the image ~~processing~~ processor has been stopped for a period of time that is not shorter than a predetermined time.

39. (Currently Amended) The ~~computer program~~ computer-readable recording medium of claim 36, wherein said first estimation function calculates and keeps a characteristic change of the image forming material every time the image ~~processing processor~~ stops for a predetermined period of time.

40. (Currently Amended) The ~~computer program~~ computer-readable recording medium of claim 35, wherein ~~said storing function stores a~~ the image processor is controlled to perform further functions comprising:

5 a further storing function for storing result data obtained by exposing ~~to~~ a part of the image forming material with a light quantity ~~through~~ that corresponds to a predetermined density according to the table ~~corresponding to a predetermined density at the~~ a time of forming a diagnosis image and by measuring a
10 density ~~on the~~ at said part of the image forming material; ~~on which the diagnosis image is formed, wherein the image processor further comprises:~~

a loading function for loading for a holder which holds an the image forming material to an the image processor; processing
15 ~~apparatus including an exposing device and a developing device;~~

a first controlling function for controlling at least one of the exposing device and the developing device ~~in such a way so~~ as to offset ~~the~~ a characteristic change of at least one of the exposing device and the developing device;

20 a third controlling function for controlling, during a predetermined period of time after loading the holder to the image processor, at least one of the exposing device and the developing device based on ~~the basis of the~~ a difference between ~~the result of the density measured on the~~ at said part of the
25 image forming material and a predetermined density for comparison; ~~during a predetermined period of time after loading the holder to the apparatus;~~

a second estimating function for calculating and keeping a characteristic change of the image forming material ~~through the~~
30 based on the stored result data and an amount of the control carried out lastly in the third controlling function; ~~step of the result of the density measured in the storing step after a predetermined period of time after loading the holder to the apparatus;~~ and

35 a fourth controlling function for controlling, if the predetermined period of time after loading the holder to the image processor has elapsed, at least one of the exposing device and the developing device based on ~~the basis of the~~ characteristic change calculated in the second estimating ~~step in~~

40 ~~such a way as to offset the characteristic change of the image~~
~~forming material~~ function instead of stored passage-time film
characteristic model data so as to offset the characteristic
change of the image forming material.

41. (Currently Amended) The ~~computer program~~ computer-
readable recording medium of claim 40, wherein the image
processor is controlled to perform further ~~comprises~~ functions
comprising:

5 a clearing function for clearing ~~off~~ the characteristic
change ~~obtained~~ calculated by the second estimating ~~at the time~~
~~of preparation of~~ function when the table is prepared by the
calibrating ~~or at the time of operation of~~ function and when the
fourth controlling is performed.

42. (Currently Amended) The ~~computer program~~ computer-
readable recording medium of claim 40, wherein the first
controlling function and the fourth controlling function are
carried out when an image formation operation is resumed after ~~a~~
5 ~~stop of the apparatus~~ the image processor has been stopped for a
period of time that is not shorter than a predetermined time.

43. (Currently Amended) The ~~computer program~~ computer-
readable recording medium of claim 40, wherein said second

estimation function calculates and keeps a characteristic change of the image forming material every time the ~~apparatus~~ image processor stops for a predetermined period of time.

44. (Currently Amended) A computer-readable recording medium having a computer program stored thereon to ~~control~~ be executed by a computer to function as cause the computer to control an image processor, ~~wherein the image processor comprises:~~ to execute functions comprising:

an exposing function for exposing ~~an~~ a thermally developable image forming material so as to form a latent image on the image forming material based on image data;

a developing function for developing and visualizing, with a thermal developing device, the latent image on the exposed image forming material so as to form an image;

a measuring function for measuring ~~the~~ an image density of the image on the developed image forming material;

a calibrating function for forming a table to define ~~an~~ a relation between an image signal and an image density thereof based on the basis of plural a plurality of different test image data and ~~measured-image~~ measured image densities thereof;

a first storing function for storing ~~a~~ characteristic change model ~~that is at least one of the~~ data indicating changes with over time of a characteristic of ~~an exposing device and a the~~

thermal developing device after starting of operation of the image processor;

a second storing function for storing ~~a~~ passage-time film characteristic model ~~that is the~~ data indicating a change with
25 over time of a characteristic of the image forming material after
loading of the image forming material in the image processor; and

a difference calculating function to calculate, each time an
image is formed based on an image signal corresponding to
diagnostic image data, ~~a density difference on the basis of the~~
30 ~~characteristic change model and the passage-time film~~
~~characteristic model~~ between an image density at ~~the~~ a time of
forming at which the table was formed and an image density at ~~the~~
a time of forming an at which the image is formed based on the
image signal of corresponding to the diagnostic image data, said
35 calculation of the density difference being performed based on
the characteristic change model data and the passage-time film
characteristic model data; and

a correcting function for correcting the table based on ~~the~~
~~basis of~~ the density difference calculated by the difference
40 calculating function.

45. (Currently Amended) The ~~computer program~~ computer-
readable recording medium of claim 44, wherein ~~said first storing~~
~~function stores said~~ the characteristic change model ~~that starts~~

~~at the data indicates the characteristic change starting from a~~
~~time of the turning on of the at which a power source of the~~
~~image processor is turned on.~~

46. (New) An image processing apparatus, comprising:

an exposing device for exposing an image forming material so
as to form a latent image on the image forming material based on
image data;

5 a developing device for developing and visualizing the
latent image on the exposed image forming material so as to form
an image;

a measuring device for measuring an image density of the
image on the developed image forming material;

10 a calibrating device for forming a table to define a
relation between an image signal and an image density thereof
based on a plurality of different test image data and measured
image densities thereof;

a storing device for storing passage-time film
15 characteristic model data that indicates a change over time of a
characteristic of the image forming material;

a difference calculating device to calculate a density
difference, based on the passage-time film characteristic model
data, between an image density at a time at which the table was
20 formed and an image density at a time at which an image is formed

based on an image signal corresponding to diagnostic image data;
and

a correcting device for correcting the table based on the
density difference calculated by the difference calculating
25 device;

wherein said storing device stores result data obtained by
exposing a part of the image forming material with a light
quantity that corresponds to a predetermined density according to
the table at a time of forming a diagnosis image and by measuring
30 a density on said part of the image forming material; and

wherein the image processing apparatus further comprises:

a holder for holding the image forming material;

a first controlling device for controlling at least one
of the exposing device and the developing device so as to offset
35 a characteristic change of at least one of the exposing device
and the developing device;

a third controlling device for controlling, during a
predetermined period of time after loading the holder to the
image processing apparatus, at least one of the exposing device
40 and the developing device based on a difference between the
density measured at said part of the image forming material and a
predetermined density for comparison;

a second estimation device for calculating and keeping
a characteristic change of the image forming material based on an

45 amount of the control carried out lastly in said third
controlling device and the stored result data; and

a fourth controlling device for controlling, if the
predetermined period of time after loading the holder to the
image processing apparatus has elapsed, at least one of the
50 exposing device and the developing device based on the
characteristic change of the image forming material calculated by
the second estimation device instead of stored passage-time film
characteristic model data in so as to offset the characteristic
change of the image forming material.

47. (New) The image processing apparatus of claim 46,
further comprising:

a clearing device for clearing the characteristic change
calculated by the second estimation device when the table is
5 prepared by the calibrating device and when the fourth
controlling device is operated.

48. (New) The image processing apparatus of claim 46,
wherein the first controlling device and the fourth controlling
device are operated when an image formation operation is resumed
after the image processing apparatus has been stopped for a
period of time not shorter than a predetermined time.

49. (New) The image processing apparatus of claim 46, wherein said second estimation device calculates and keeps a characteristic change of the image forming material every time the image processing apparatus stops for a predetermined period of time.

50. (New) A method of image processing with an image processing apparatus, comprising:

exposing, with an exposing device, an image forming material so as to form a latent image on the image forming material based
5 on image data;

developing and visualizing, with a developing device, the latent image on the exposed image forming material so as to form an image;

measuring an image density of the image on the developed
10 image forming material;

forming a table to define a relation between an image signal and an image density thereof based on a plurality of different test image data and measured image densities thereof;

storing passage-time film characteristic model data that
15 indicates a change over time of a characteristic of the image forming material;

calculating a density difference, based on the passage-time film characteristic model, between an image density at a time at

which the table was formed and an image density at a time at
20 which an image is formed based on an image signal corresponding
to diagnostic image data;

correcting the table based on the calculated density
difference calculated by the difference calculating;

storing result data obtained by exposing a part of the image
25 forming material with a light quantity that corresponds to a
predetermined density according to the table at a time of forming
a diagnosis image and by measuring a density at said part of the
image forming material;

loading a holder which holds the image forming material to
30 the image processing apparatus;

controlling at least one of the exposing device and the
developing device so as to offset a characteristic change of at
least one of the exposing device and the developing device;

controlling, during a predetermined period of time after
35 loading the holder to the image processing apparatus, at least
one of the exposing device and the developing device based on a
difference between the density measured at said part of the image
forming material and a predetermined density for comparison;

calculating and keeping a characteristic change of the image
40 forming material based on an amount of the control carried out
lastly in the controlling performed based on the measured density
and the density for comparison, and the stored result data; and

controlling at least one of the exposing device and the
developing device based on the calculated characteristic change
45 of the image forming material, instead of the stored passage-time
film characteristic model data so as to offset the characteristic
change of the image forming material.

51. (New) The method of claim 50, further comprising:
clearing the characteristic change of the image forming
material when the table is prepared and when the at least one of
the exposing device and the developing device are controlled
based on the calculated characteristic change of the image
forming material.

52. (New) The method of claim 50, wherein when an image
formation operation is resumed after the image processing
apparatus has been stopped for a period of time that is not
shorter than a predetermined time, (i) the controlling the at
5 least one of the exposing device and the developing device so as
to offset the a characteristic change of at least one of the
exposing device and the developing device, and (ii) the
controlling the at least one of the exposing device and the
developing device based on the calculated characteristic change
10 of the image forming material are both carried out.

53. (New) The method of claim 50, wherein a characteristic change of the image forming material is calculated and kept every time the image processing apparatus stops for a predetermined period of time.

54. (New) A computer-readable recording medium having a computer program stored thereon to be executed by a computer to cause the computer to control an image processor to execute functions comprising:

5 an exposing function for exposing, with an exposing device, an image forming material so as to form a latent image on the image forming material based on image data;

10 a developing function for developing and visualizing, with a developing device, the latent image on the exposed image forming material so as to form an image;

 a measuring function for measuring an image density of the image on the developed image forming material;

15 a calibrating function for forming a table to define a relation between an image signal and an image density thereof based on a plurality of different test image data and measured image densities thereof;

 a storing function for storing passage-time film characteristic model data that indicates a change over time of a characteristic of the image forming material; and

- 20 a difference calculating function to calculate a density difference, based on the passage-time film characteristic model data, between an image density at a time at which the table was formed and an image density at a time at which an image is formed based on image signal corresponding to diagnostic image data; and
- 25 a correcting function for correcting the table based on the density difference calculated by the difference calculating function;
- a further storing function for storing result data obtained by exposing a part of the image forming material with a light
- 30 quantity that corresponds to a predetermined density according to the table at a time of forming a diagnosis image and by measuring a density on said part of the image forming material;
- a loading function for loading for a holder which holds the image forming material to the image processor;
- 35 a first controlling function for controlling at least one of the exposing device and the developing device so as to offset a characteristic change of at least one of the exposing device and the developing device;
- a third controlling function for controlling, during a
- 40 predetermined period of time after loading the holder to the image processor, at least one of the exposing device and the developing device based on a difference between the density

measured at said part of the image forming material and a
predetermined density for comparison;

45 a second estimating function for calculating and keeping a
characteristic change of the image forming material based on an
amount of the control carried out lastly in the third controlling
function of and the stored result data; and

50 a fourth controlling function for controlling, if the
predetermined period of time after loading the holder to the
image processor has elapsed, at least one of the exposing device
and the developing device based on the characteristic change
calculated in the second estimating function instead of the
stored passage-time film characteristic model data so as to
55 offset the characteristic change of the image forming material.

55. (New) The computer-readable recording medium of
claim 54, wherein the image processor is controlled to perform
further functions comprising:

5 a clearing function for clearing the characteristic change
calculated by the second estimating function when the table is
prepared by the calibrating function and when the fourth
controlling is performed.

56. (New) The computer-readable recording medium of
claim 54, wherein the first controlling function and the fourth

controlling function are carried out when an image formation
operation is resumed after the the image processor has been
5 stopped for a period of time not shorter than a predetermined
time.

57. (New) The computer-readable recording medium of
claim 54, wherein said second estimation function calculates and
keeps a characteristic change of the image forming material every
time the image processor stops for a predetermined period of
time.